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EXAMINER

CHAO, MICHAEL W

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,442	<b>Applicant(s)</b> KIKKAWA ET AL.	
	<b>Examiner</b> Michael Chao	<b>Art Unit</b> 2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30,33 and 34 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

This action is in response to applicant's arguments filed 11/18/2009, which was in response to USPTO Office Action mailed 8/18/2009.

Claims 1-30, 33 and 34 are pending.

***Response to Arguments***

Applicant's arguments, see pages 20-23, filed 11/18/2009, with respect to the rejection(s) of claim(s) 1 under Rakib in view of Tso in view of Steidley have been fully considered and are persuasive. Rakib in view of Tso in view of Steidley does not teach a hierarchical management directory, and also arranging the first content and the second content as a unit of content. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rakib (US 6,970,127), in view of Shinman et al. (US 2002/0019827), in view of Tso et al. (US 6,421,733), in view of Sie et al. (US 7,024,679).

***Claim Objections***

Claim 21 objected to because of the following informalities: 'setting' is repeated on line 3. Appropriate correction is required.

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***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-30, 33 and 34 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The independent claims recite "the first content and the second content as a unit of content". Corresponding language could not be found in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-30, 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-30, 33 and 34 recite "the first content and the second content as a unit of content"; however, as stated above, language describing the limitation could not be found in the specification. As such, the metes and bounds of the limitation 'multiple data as a unit of content' is not clear. "The first content and the second content as a unit of

1 content” has been interpreted to mean ‘associating the first content and the second  
2 content’

3 Claims 1-30, 33 and 34 generally contain references to a “channel list Uniform  
4 Resource Locator (URL). This term appears to have different functionalities in different  
5 context among the claims without any explanation therefore. For instance, in claims 1  
6 and 13 the term is stated to be a ‘content identifier’; however, claim 13 recites also  
7 states that the client switches content based on the ‘channel list URL’ after the channel  
8 list URL has been sent to the server. Thus, there appears to be a dual functionality that  
9 is not plainly evident from the claim and as such the claims are indefinite.

10 Claims 14-30, 33 and 34 contain the term “corresponding”, this term has  
11 generally been used as a substitute for “as to”. Its use however leads to language that  
12 means something different than that which is apparently intended. For instance, claim  
13 16 contains “setting a recording source content identifier corresponding to a tuner  
14 control instance”. It is unclear what a content identifier being set to a tuner control  
15 instance (as in claim 16) would accomplish or how it would be done. Therefore, in the  
16 claims where a content identifier is stated to correspond to a control instance it has  
17 been interpreted to mean that the control instance is utilizing the content identifier to  
18 perform a function. While claims 1-13 do not appear to have the issue discussed above  
19 with the term “corresponding”, Applicant may wish to review its use to assure it yields  
20 the intended meaning.

1           Claim 4 recites “a control request received by the client” appears contradictory as  
2     the server should be receiving control requests. It has been interpreted as the request  
3     sent by the client.

4           Claim 13 is directed to a "device requesting content" which comprises elements.  
5     However, claim 13 also lists elements of a server such as "tuner includes". Furthermore,  
6     the processing device is further stated to have ‘an outputting device for outputting the  
7     first content . . .’, another element of the server. This makes the claim ambiguous as the  
8     device appears to contain parts of two devices.

9           Claim 17 recites “setting the recording source content identifier to correspond to  
10    a recording unit control instance” is confusing. Setting a content identifier to an instance,  
11    or naming a piece of content after an instantiation of software would generally not work,  
12    as an instance does not have a permanent name, rather it usually has a temporary  
13    memory map to its process id; as such a transient name assigned to semi permanent  
14    content would appear to be a pointless exercise. The interpretation that seems to be  
15    intended is “setting the recording source content identifier **in a** recording unit control  
16    instance.” In other words, providing a recording unit control instance with the content  
17    identifier it will be handling.

18          Claim 18 recites “storing the recording source content [identifier] as the  
19    metadata; storing the recording target content identifier as the metadata”. These two  
20    clauses both narrow what the metadata is required/limited to contain. Literally  
21    interpreted, a processor would store the recording source content in the metadata, then  
22    overwrite that with a recording target content identifier. As it is assumed Applicant

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1 intends both to be present in the metadata, a claim could recite: "wherein storing  
2 metadata further includes: storing the recording source content identifier as metadata,  
3 storing the recording target content identifier as metadata". Applicant should also note  
4 that the claim recites that the "recording source content" is part of the metadata, rather  
5 than "recording source content identifier" the latter of which would be metadata, while  
6 the former would usually not.

7

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 33 and 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 33 and 34 recite a "computer-readable storage medium". Broadly interpreted a computer readable storage medium may include transitory storage mediums such as a transmission line storing a propagating signal. A transitory medium is not patentable subject matter, see *In re Nuijten*, 500 F3d 1346, 84 USPQ2d 1495 (2007). The examiner suggests rewording to explicitly exclude transitory media such as "non-transitory" or "non-transmissible" media.

***Claim Rejections - 35 USC § 103***

Claims 1-9, 16-24 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib (US 6,970,127), in view of Shinman et al. (US 2002/0019827), in view of Tso et al. (US 6,421,733), in view of Sie et al. (US 7,024,679).

With respect to claims 1, 16 and 33, Rakib teaches: A content-providing server for executing content transmission to a client and content recording processing, the server comprising:

a tuner for executing data reception processing; ("Gateway 10 also has an internal router and **tuner** and demodulation and detector circuitry" Rakib column 7 line 15)



1           a data transmission/reception unit (“Gateway 10 has an RF or infrared” Rakib  
2 column 7 line 13 ) for executing communication processing between the server and a  
3 client, (“Gateway 10 has an RF or infrared transceiver 32 therein to send and receive  
4 data to/from remote 30” Rakib column 7 line 13 ) wherein the communication  
5 processing includes communication of control information (“(2) change video channel  
6 selections for the TV or remote” Rakib column 3 line 20) and content received by the  
7 tuner, (“(1) monitor one video channel while watching another on a TV” Rakib column 3  
8 line 20) the received content including a first content received by the tuner over a first  
9 channel and a second content received by the tuner over a second channel; (“Receiver  
10 106 has the ability to tune and demultiplex two separate logical channels simultaneously  
11 in some embodiments. Typically this will be done by filtering out all MPEG packets  
12 having two separate program descriptors (PID)” Rakib column 14 line 30)  
13           a metadata storage unit including attribute information corresponding to the  
14 received content, wherein the attribute information is stored as content information;  
15 (“displaying a menu of programs that have been recorded and providing a menu to  
16 issue commands to play a program,” Rakib column 13 line 30)  
17           a content storage unit for storing the received content (“displaying a menu of  
18 programs that have been recorded and providing a menu to issue commands to play a  
19 program,” Rakib column 13 line 30)  
20           a content management unit for processing the content information to be provided  
21 to the client; and (“Operating system 116 cooperates with the remote control 100 to  
22 receive commands to implement TIVO-like functions” Rakib column 12 line 1; Also

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1 “displaying a menu of programs that have been recorded and providing a menu to issue  
2 commands to play a program,” Rakib column 13 line 30)

3 a content delivery control unit for processing the received content, the content  
4 delivery control unit comprising: (“Gateway 10 also has an internal router and tuner and  
5 demodulation and detector circuitry” Rakib column 7 line 15)

6 Rakib does not teach:

7 in an hierarchical content management directory, wherein the metadata storage  
8 unit includes information describing the hierarchical management directory;

9 a tuner control instance for arranging the first content and the second  
10 content as a unit of content, wherein a recording source content identifier is set  
11 corresponding to the unit of content, and the recording source content identifier is a  
12 channel list Uniform Resource Locator (URL); and

13 a storage unit control instance for storing the unit of content, wherein a  
14 recording target content identifier is set corresponding to the unit of content, and  
15 wherein the data transmission/reception unit uses the channel list URL to provide  
16 the first content and the second content to the client.

17 (note that while Rakib does not discuss a URL addressing per se, it discloses  
18 using program guide data to identify a time, channel and duration of a program to be  
19 recorded [col 12 line 10]. Where a program guide can be retrieved from the internet [col  
20 17 line 24])

21 Shinman discloses a hierarchical content management directory, wherein the  
22 metadata storage unit includes information describing the hierarchical management

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1 directory. ("Files in a file system are identified by a unique name that is formed from a  
2 path name that represents the logical position of the file in the hierarchical file system  
3 and a file name that briefly describes the file, sometimes independently of the path  
4 name." Shinman paragraph [0071]) A person of ordinary skill in the art at the time of  
5 invention would have modified Rakib with Shinman by including a directory structure in  
6 the storage of Rakib. It would have been obvious at the time the invention was made to  
7 a person of ordinary skill in the art to modify Rakib with Shinman in order to segment  
8 the files in a user view for easy browsing, so that the user may more quickly find the  
9 desired document. Such desirability is disclosed in Rakib column 19 line 35 in the form  
10 of a segmented hard disk array.

11 Rakib in view of Shinman does not disclose:

12 a tuner control instance for arranging the first content and the second  
13 content as a unit of content, wherein a recording source content identifier is set  
14 corresponding to the unit of content, and the recording source content identifier is  
15 a channel list Uniform Resource Locator (URL); and

16 a storage unit control instance for storing the unit of content, wherein a  
17 recording target content identifier is set corresponding to the unit of content, and  
18 wherein the data transmission/reception unit uses the channel list URL to provide  
19 the first content and the second content to the client.

20 Tso generally teaches a web caching interface that accepts URLs and caches  
21 them according to certain parameters. Tso teaches:

1                   a tuner control instance, (“each HTTP request has a unique thread that  
2   may be blocked” Tso column 5 line 65. A thread is an instance of a piece of program  
3   code, here it is program code designed to get data, similar to a tuner control instance.)  
4   wherein a recording source content identifier is set corresponding to the unit of content,  
5   and the recording source content identifier is a channel list Uniform Resource Locator  
6   (URL); and (“GetObject (URL, InParams, &outParams)” Tso column 5 line 54. A  
7   function that takes a recording source that is a URL)

8                   a storage unit control instance for storing the unit of content, (“uses a  
9   separate thread to read the incoming data stream, transcode it, and place it within the  
10   entry of server-side cache memory” Tso column 6 line 43) wherein a recording target  
11   content identifier is set corresponding to the unit of content, and (“CreateEntry (URL,  
12   &Entry, . . .))” Tso column 4 line 50; also Tso column 6 lines 25-50 generally discuss  
13   checking the cache and retrieving the content if not present in the cache.)

14                  wherein the data transmission/reception unit uses the channel list URL to provide  
15   the first content and the second content to the client. (As shown above, URLs are used  
16   to retrieve content.)

17                  A person of ordinary skill in the art would have modified the invention of Rakib in  
18   view of Shinman with Tso by including the threaded processing of Tso in the invention  
19   of Rakib in view of Shinman and also by including a recording interface that utilizes URL  
20   styled indexes as shown in Tso. It would have been obvious at the time the invention  
21   was made to a person of ordinary skill in the art to Modify Rakib in view of Shinman with  
22   Tso in order to allow threaded processes and the benefits therefrom, such as blocking

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1 (Tso 5:66) and parallel execution of tasks. Furthermore Rakib would have been  
2 modified with Tso by allowing URLs to index a cache so as to provide support for a  
3 hierarchical directory structure.

4 Furthermore Rakib in view of Shinman in view of Tso does not teach:  
5 a tuner control instance for arranging the first content and the second content as  
6 a unit of content,

7 Sie discloses the concept of linking multiple pieces of content. ("At some point  
8 before the user attempts to vie the program 958, the first portion 960 is stored on a  
9 mass storage device in the set top box 120. When a request is made for the program  
10 958, the remaining portions 964, 968, 972 are retrieved from their respective channels  
11 948, 952, 956. The remaining portions 964, 968, 972 are gathered either sequentially or  
12 in parallel." Sie column 15 lines 5-15) A person of ordinary skill in the art would have  
13 combined Rakib in view of Shinman in view of Tso with Sie by utilizing multiple channels  
14 to retrieve content desired by the user. It would have been obvious at the time the  
15 invention was made to a person of ordinary skill in the art in order to allow for Video on  
16 Demand of Near Video on Demand feeds. (see Sie abstract)

17 With respect to claim 2, Rakib in view of Shinman in view of Tso in view of Sie  
18 teaches: wherein the recording source content identifier is included in the storage unit  
19 control instance, (CreateEntry (URL . . .) Tso column 4 line 50; "uses a separate thread  
20 to read the incoming data stream, transcode it, and place it within the entry of server-  
21 side cache memory" Tso column 6 line 43) and the storage unit control instance  
22 processes the first content and the second content based on the recording source

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1 content identifier. ("When a request is made for the program 958, the remaining portions  
2 964, 968, 972 are retrieved from their respective channels 948, 952, 956. The remaining  
3 portions 964, 968, 972 are gathered either sequentially or in parallel." See column 15  
4 lines 5-15)

5 With respect to claim 3, Rakib in view of Shinman in view of Tso in view of Sie  
6 teaches: wherein the content management unit processes the content information  
7 based on the content management directory, ("Operating system 116 cooperates with  
8 the remote control 100 to receive commands to implement TIVO-like functions" Rakib  
9 column 12 line 1; See generally TIVO like functions of column 13) and wherein the tuner  
10 control instance and the storage unit control instance set the recording source content  
11 identifier and the recording target content identifier based on a request from the client.  
12 (See the combination with Tso, using URLs to address content)

13 With respect to claim 4 Rakib in view of Shinman in view of Tso in view of Sie  
14 teaches: wherein the channel list URL identifies a channel list including the first channel  
15 and the second channel wherein the first content and the second content is provided to  
16 the client based on a control request received by the client, the control request including  
17 the channel list URL. ("When a request is made for the program 958, the remaining  
18 portions 964, 968, 972 are retrieved from their respective channels 948, 952, 956. The  
19 remaining portions 964, 968, 972 are gathered either sequentially or in parallel." See  
20 column 15 lines 5-15; therefore the terminal knows which channels to access based on  
21 the client request)

1 With respect to claim 5, Rakib in view of Shinman in view of Tso in view of Sie  
2 teaches: wherein the recording source content identifier identifies a content storage  
3 object corresponding to a content storage region included in the content storage unit.  
4 (See the combination with Tso, using URLs to address content. Data stored in memory  
5 utilizes regions of memory.)

6 With respect to claim 6, Rakib in view of Shinman in view of Tso in view of Sie  
7 teaches: wherein the content management unit is configured to store setting information  
8 corresponding to the received content, the setting information including time information  
9 (“Another TIVO function is to save the place where a user stopped viewing a program”  
10 Rakib column 13 line 35) and recording quality information, (“Another TIVO function is  
11 providing the ability to record a program and any one of a plurality of selected quality or  
12 resolution levels” Rakib column 12 line 55) and wherein the recording target content  
13 identifier is set based on the setting information.

14 With respect to claim 7, Rakib in view of Shinman in view of Tso in view of Sie  
15 teaches: wherein the content management unit is configured to set a content storage  
16 object URL as the metadata. (CreateEntry (URL . . .) Tso column 4 line 50)

17 With respect to claim 8, Rakib in view of Shinman in view of Tso in view of Sie  
18 teaches: wherein the first content is live content, and providing the first content includes  
19 live streaming of the first content to the client. (“Another TIVO function is pausing live  
20 TV for a bathroom break, a phone call, etc.” Rakib column 13 line 45; also “In this way,  
21 a user only has to wait a maximum of a half-hour in order to view the next program in  
22 the conventional manner.” Sie column 14 line 7)

1 With respect to claim 9, Rakib in view of Shinman in view of Tso in view of Sie  
2 teaches: wherein recording target content identifier includes a content storage object  
3 URL. (CreateEntry (URL . . .) Tso column 4 line 50)

4 With respect to claim 17, Rakib in view of Shinman in view of Tso in view of Sie  
5 teaches: setting the recording source content identifier to correspond to a recording unit  
6 control instance. (CreateEntry (URL . . .) Tso column 4 line 50)

7 With respect to claim 18, Rakib in view of Shinman in view of Tso in view of Sie  
8 teaches: storing the recording source content as the metadata; ("GetObject (URL,  
9 InParams, &outParams)" Tso column 5 line 54)

10 storing the recording target content identifier as the metadata; and (CreateEntry  
11 (URL . . .) Tso column 4 line 50)  
12 processing the metadata based on a request from the client.

13 With respect to claim 19, Rakib in view of Shinman in view of Tso in view of Sie  
14 teaches: wherein the channel list URL identifies the first channel and the second  
15 channel. (The remaining portions 964, 968, 972 are gathered either sequentially or in  
16 parallel." Sie column 15 lines 5-15)

17 With respect to claim 20, Rakib in view of Shinman in view of Tso in view of Sie  
18 teaches: wherein the recording target content identifier identifies a content storage  
19 object corresponding to a content storage region in the server. (see claim 5)

20 With respect to claim 21, Rakib in view of Shinman in view of Tso in view of Sie  
21 teaches: setting [setting] information corresponding to the received content, the setting



1 information including time information and recording quality information, wherein the  
2 recording target content identifier is set based on the setting information. (see claim 6)

3 With respect to claim 22, Rakib in view of Shinman in view of Tso in view of Sie  
4 teaches: setting a content storage object URL as the metadata. (see claim 7)

5 With respect to claim 23, Rakib in view of Shinman in view of Tso in view of Sie  
6 teaches: wherein the first content is live content and providing the first content includes  
7 live streaming of the first content to the client. (see claim 8)

8 With respect to claim 24, Rakib in view of Shinman in view of Tso in view of Sie  
9 teaches: wherein the recording target content identifier includes a content storage  
10 object URL. (see claim 9)

11  
12 Claims 10-15, 25-30 and 34 are rejected under 35 U.S.C. 103(a) as being  
13 unpatentable over Rakib (US 6,970,127), in view of Shinman et al. (US 2002/0019827),  
14 in view of Tso et al. (US 6,421,733), in view of Sie et al. (US 7,024,679), in view of  
15 Sharma et al. (US 7,159,224).

16 With respect to claim 10, claim 1 is discussed above, Rakib in view of Shinman in  
17 view of Tso in view of Sie does not teach: wherein the content information includes  
18 protocol information including a function ID to identify the tuner, the function ID being  
19 used to determine the tuner control instance and the storage unit control instance.

20 Sharma teaches serializing SOAP objects for communicating with server side  
21 objects. ("The SOAPSerializationState for an object may store a unique ID assigned to  
22 that object and a reference to the serializer for the object" Sharma column 31 line 33)

1 (“When client 510 prepares to send data to server 510, such as when a remote call is  
2 made to a service endpoint 555 maintained by server 530 . . . may serialize a Java  
3 object” Sharma column 30 lines 5-10)

4 A person of ordinary skill in the art at the time of invention would have modified  
5 Rakib in view of Shinman in view of Tso in view of Sie with Sharma by using Java  
6 objects on both the server and client, and communicating between them using  
7 serialization over SOAP. It would have been obvious at the time the invention was made  
8 to a person of ordinary skill in the art to modify Rakib in view of Shinman in view of Tso  
9 in view of Sie with Sharma in order to provide an easily extensible interface that enables  
10 a flexible command structure.

11 With respect to claim 11, claim 1 is discussed above, Rakib in view of Shinman in  
12 view of Tso in view of Sie does not teach: wherein the content delivery control unit is  
13 configured to set a control instance that is configured to manage a connection between  
14 the server and the client based on a connection management table corresponding to an  
15 instance ID, the instance ID identifying the tuner control instance and the storage unit  
16 control instance.

17 Sharma teaches said elements. Sharma discloses such elements:

18 wherein the content delivery control unit is configured to set a control instance  
19 that is configured to manage a connection (“References to the object and its serializer  
20 are passed as parameters to registerObject, which may generate a unique ID for the  
21 object and adds a SOAPSerializatoinState for the object to its internal map.” Sharma  
22 column 32 line 15)

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1           between the server and the client (“When client 510 prepares to send data to  
2   server 510, such as when a remote call is made to a service endpoint 555 maintained  
3   by server 530 . . . may serialize a Java object” Sharma column 30 lines 5-10)

4           based on a connection management table corresponding to an instance ID, the  
5   instance ID identifying the tuner control instance and the storage unit control instance.  
6   (“The SOAPSerializationState for an object may store a unique ID assigned to that  
7   object and a reference to the serializer for the object” Sharma column 31 line 33)

8           A person of ordinary skill in the art at the time of invention would have modified  
9   Rakib in view of Shinman in view of Tso in view of Sie with Sharma by using Java  
10   objects on both the server and client, and communicating between them using  
11   serialization over SOAP. It would have been obvious at the time the invention was made  
12   to a person of ordinary skill in the art to modify Rakib in view of Shinman in view of Tso  
13   in view of Sie with Sharma in order to provide an easily extensible interface that enables  
14   a flexible command structure.

15          With respect to claim 12, claim 11 is discussed above, Rakib in view of Shinman  
16   in view of Tso in view of Sie in view of Sharma teaches: wherein the content delivery  
17   control unit receives a Simple Object Access Protocol [(SOAP)] content request from  
18   the client. (“SOAPSerializationState” Sharma column 31 line 33)

19  
20          With respect to claims 13, 28 and 34 Rakib teaches: An information processing  
21   device requesting content received by a tuner in a server, the information processing  
22   device comprising:

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1 a processor for sending first protocol information (“The advantage of having  
2 display 60 and MPEG decompression software 62 and frame buffer 66 is that the  
3 remote control can be used to preview movies” Rakib column 10 line 1) tuner receiving  
4 the content, (“Gateway 10 also has an internal router and **tuner** and demodulation and  
5 detector circuitry” Rakib column 7 line 15) a storage unit of the server storing the  
6 content received by the tuner, (“displaying a menu of programs that have been recorded  
7 and providing a menu to issue commands to play a program,” Rakib column 13 line 30)  
8 wherein the content received by the tuner includes a first content received by the tuner  
9 over a first channel and a second content received by the tuner over a second channel,  
10 the first content and the second content being (“Receiver 106 has the ability to tune and  
11 demultiplex two separate logical channels simultaneously in some embodiments.  
12 Typically this will be done by filtering out all MPEG packets having two separate  
13 program descriptors (PID)” Rakib column 14 line 30) described by metadata stored in  
14 the server; (“displaying a menu of programs that have been recorded and providing a  
15 menu to issue commands to play a program,” Rakib column 13 line 30)  
16 an input device for receiving the first content and the second content based on  
17 the first protocol information and the second protocol information sent to the server,  
18 (“Gateway 10 has an RF or infrared transceiver 32 therein to send and receive data  
19 to/from remote 30” Rakib column 7 line 13 )

20 Takib does not teach:

21 including a function ID identifying the tuner receiving the content

1           and second protocol information including a data storage unit function ID  
2     identifying  
3           arranged in a[] hierarchical content management directory  
4           the first content and the second content being received as a unit of content,  
5     wherein a recording source content identifier that is set corresponding to the unit of  
6     content is used to receive the first content and the second content, and the recording  
7     source content identifier is a channel list Uniform Resource Locator (URL); and  
8           an outputting device for outputting the first content and the second content,  
9     wherein the client switches between the first content and the second content based on  
10    the channel list URL.

11          Shinman discloses a hierarchical content management directory, wherein the  
12    metadata storage unit includes information describing the hierarchical management  
13    directory. ("Files in a file system are identified by a unique name that is formed from a  
14    path name that represents the logical position of the file in the hierarchical file system  
15    and a file name that briefly describes the file, sometimes independently of the path  
16    name." Shinman paragraph [0071]) A person of ordinary skill in the art at the time of  
17    invention would have modified Rakib with Shinman by including a directory structure in  
18    the storage of Rakib. It would have been obvious at the time the invention was made to  
19    a person of ordinary skill in the art to modify Rakib with Shinman in order to segment  
20    the files in a user view for easy browsing, so that the user may more quickly find the  
21    desired document. Such desirability is disclosed in Rakib column 19 line 35 in the form  
22    of a segmented hard disk array.

1           Rakib in view of Shinman does not teach:  
2           including a function ID identifying the tuner receiving the content  
3           and second protocol information including a data storage unit function ID  
4   identifying  
5           the first content and the second content being received as a unit of content,  
6   wherein a recording source content identifier that is set corresponding to the unit of  
7   content is used to receive the first content and the second content, and the recording  
8   source content identifier is a channel list Uniform Resource Locator (URL); and  
9           an outputting device for outputting the first content and the second content,  
10   wherein the client switches between the first content and the second content based on  
11   the channel list URL.

12           Tso generally teaches a web caching interface that accepts URLs and caches  
13   them according to certain parameters. Tso teaches:  
14           and the recording source content identifier is a channel list Uniform Resource  
15   Locator (URL); and ("CreateEntry (URL, &Entry, . . .)") Tso column 4 line 50; also Tso  
16   column 6 lines 25-50 generally discuss checking the cache and retrieving the content if  
17   not present in the cache.)  
18           an outputting device for outputting the first content and the second content,  
19   wherein the client switches between the first content and the second content based on  
20   the channel list URL. ("GetObject (URL, InParams, &outParams)" Tso column 5 line 54.  
21   A function that takes a recording source that is a URL)

1           A person of ordinary skill in the art would have modified the invention of Rakib in  
2 view of Shinman with Tso by including the threaded processing of Tso in the invention  
3 of Rakib in view of Shinman and also by including a recording interface that utilizes URL  
4 styled indexes as shown in Tso. It would have been obvious at the time the invention  
5 was made to a person of ordinary skill in the art to Modify Rakib in view of Shinman with  
6 Tso in order to allow threaded processes and the benefits therefrom, such as blocking  
7 (Tso 5:66) and parallel execution of tasks. Furthermore Rakib would have been  
8 modified with Tso by allowing URLs to index a cache so as to provide support for a  
9 hierarchical directory structure.

10           Rakib in view of Shinman in view of Tso does not teach:  
11           including a function ID identifying the tuner receiving the content  
12           and second protocol information including a data storage unit function ID  
13 identifying

14           the first content and the second content being received as a unit of content,  
15 wherein a recording source content identifier that is set corresponding to the unit of  
16 content is used to receive the first content and the second content,

17           Sie discloses the concept of linking multiple pieces of content:

18           the first content and the second content being received as a unit of content,

19           ("At some point before the user attempts to vie the program 958, the first portion  
20 960 is stored on a mass storage device in the set top box 120. When a request is made  
21 for the program 958, the remaining portions 964, 968, 972 are retrieved from their

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1    respective channels 948, 952, 956. The remaining portions 964, 968, 972 are gathered  
2    either sequentially or in parallel.” Sie column 15 lines 5-15)  
3    wherein a recording source content identifier that is set corresponding to the unit of  
4    content is used to receive the first content and the second content, (“When a request is  
5    made for the program 958, the remaining portions 964, 968, 972 are retrieved from their  
6    respective channels 948, 952, 956. The remaining portions 964, 968, 972 are gathered  
7    either sequentially or in parallel.” Sie column 15 lines 5-15)

8            A person of ordinary skill in the art would have combined Rakib in view of  
9    Shinman in view of Tso with Sie by utilizing multiple channels to retrieve content desired  
10   by the user. It would have been obvious at the time the invention was made to a person  
11   of ordinary skill in the art in order to allow for Video on Demand or Near Video on  
12   Demand feeds. (see Sie abstract)

13           Furthermore Rakib in view of Shinman in view of Tso does not teach:  
14           including a function ID identifying the tuner receiving the content  
15           and second protocol information including a data storage unit function ID  
16   identifying

17           Sharma teaches serializing SOAP objects for communicating with server side  
18   objects:

19           including a function ID identifying the tuner receiving the content (“The  
20   SOAPSerializationState for an object may store a unique ID assigned to that object and  
21   a reference to the serializer for the object” Sharma column 31 line 33)



1           and second protocol information including a data storage unit function ID  
2     identifying (“When client 510 prepares to send data to server 510, such as when a  
3     remote call is made to a service endpoint 555 maintained by server 530 . . . may  
4     serialize a Java object” Sharma column 30 lines 5-10). A person of ordinary skill in the  
5     art at the time of invention would have modified Rakib in view of Shinman in view of Tso  
6     in view of Sie with Sharma by using Java objects on both the server and client, and  
7     communicating between them using serialization over SOAP. It would have been  
8     obvious at the time the invention was made to a person of ordinary skill in the art to  
9     modify Rakib in view of Shinman in view of Tso in view of Sie with Sharma in order to  
10    provide an easily extensible interface that enables a flexible command structure.

11           With respect to claim 14, Rakib in view of Shinman in view of Tso in view of Sie  
12    in view of Sharma teaches: wherein the processor sends a request to set the recording  
13    source content identifier, (“(2) change video channel selections for the TV or remote”  
14    Rakib column 3 line 20; see also the combination with Tso) the recording source  
15    content identifier being set to correspond to a control instance of the tuner. (“The  
16    SOAPSerializationState for an object may store a unique ID assigned to that object and  
17    a reference to the serializer for the object” Sharma column 31 line 33)

18           With respect to claim 15, Rakib in view of Shinman in view of Tso in view of Sie  
19    in view of Sharma teaches: wherein the processor sends a request to set a recording  
20    target content identifier, (“CreateEntry (URL, &Entry, . . . )”) Tso column 4 line 50; also  
21    Tso column 6 lines 25-50 generally discuss checking the cache and retrieving the  
22    content if not present in the cache.) the recording target content identifier being set to

1 correspond to a content storage region in the server. (memory has regions, thus this is  
2 inherent)

3 With respect to claim 25, claim 16 is discussed above, Rakib in view of Shinman  
4 in view of Tso in view of Sie in view of Sharma teaches: setting protocol information  
5 corresponding to the received content, the protocol information including a function ID to  
6 identify the tuner control instance and the storage unit control instance. (see claim 10)

7 With respect to claim 26, claim 16 is discussed above, Rakib in view of Shinman  
8 in view of Tso in view of Sie in view of Sharma teaches: setting a control instance  
9 configured to manage a connection between the server and the client based on a  
10 management table corresponding to an instance ID, the instance ID identifying the tuner  
11 control instance and the storage unit control instance. (see claim 11)

12 With respect to claim 27, claim 26 is discussed above, Rakib in view of Shinman  
13 in view of Tso in view of Sie in view of Sharma teaches: wherein the control request,  
14 received from the client, is based on a SOAP protocol. (see claim 12)

15 With respect to claim 29, Rakib in view of Shinman in view of Tso in view of Sie  
16 in view of Sharma teaches: sending a request to set the recording source content  
17 identifier, the recording source content identifier being set to correspond to a control  
18 instance of the tuner. (see claim 14)

19 With respect to claim 30, Rakib in view of Shinman in view of Tso in view of Sie  
20 in view of Sharma teaches: sending a request to set a recording target content identifier,  
21 the target content identifier being set to correspond to a content storage region in the  
22 server. (see claim 15)

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1

2

***Conclusion***

3

The prior art made of record and not relied upon is considered pertinent to  
applicant's disclosure.

4

5

Mao et al. (US 2003/0088876) discloses a Video on Demand gateway.

6

1           Applicant's amendment necessitated the new ground(s) of rejection presented in  
2 this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP  
3 § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37  
4 CFR 1.136(a).

5           A shortened statutory period for reply to this final action is set to expire THREE  
6 MONTHS from the mailing date of this action. In the event a first reply is filed within  
7 TWO MONTHS of the mailing date of this final action and the advisory action is not  
8 mailed until after the end of the THREE-MONTH shortened statutory period, then the  
9 shortened statutory period will expire on the date the advisory action is mailed, and any  
10 extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of  
11 the advisory action. In no event, however, will the statutory period for reply expire later  
12 than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Chao whose telephone number is (571)270-5657. The examiner can normally be reached on 8-4 Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Pwu can be reached on (571)272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. C./  
Examiner, Art Unit 2442

/Jeffrey Pwu/  
Supervisory Patent Examiner, Art Unit 2446